



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/390,090	09/03/1999	ALAIN P. LEVESQUE	07923/120001	6316

7590 09/03/2003

SANDEEP JAGGI PH.D
INTELLECTUAL PROPERTY LAW DEPARTMENT
LSI LOGIC CORPORATION
1551 McCARTHY BOULEVARD, M/S D-106
MILPITAS, CA 95035

EXAMINER

HOYE, MICHAEL W

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 09/03/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/390,090	LEVESQUE ET AL.	
	Examiner Michael W. Hoye	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 23 June 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11 and 13-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-11 and 13-24 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 03 September 1999 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____

DETAILED ACTION

In response to the Appeal Brief filed on June 26, 2003, and upon consideration of Applicant's arguments with respect to the rejection of claims 1-11 and 12-24, it has been determined that the Final Rejection Office Action of 12/31/02 was in error. The Examiner has withdrawn the Final Rejection of 12/31/02 in view of a new Final Rejection Office Action herewith. The Examiner apologizes for any inconveniences caused.

Claim Objections

Claims 16-17 are objected to because of the following informalities: the claims refer to the apparatus of claim 21, but claim 21 is referring to a television receiver. The examiner is uncertain as to whether the claims are incorrectly associated with each other or if there is a typographical error in the wording of the claims. Appropriate correction is required.

Claim 13 is objected to because of the following informalities: the claim refers to the apparatus of claim 22, but claim 22 is referring to a set-top box. The examiner is uncertain as to whether the claims are incorrectly associated with each other or if there is a typographical error in the wording of the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10-11, 16-19 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Russo et al (USPN 5,701,383), cited by the examiner.

As to claims 1 and 2, note the Russo et al reference which discloses a time-shifted video method. The claimed real-time mode is met by the viewer watching a program in real time (see col. 8, lines 65-67) and the claimed delivering real-time video frames for display in response to a digital input signal is met by the picture being watched in real time as previously described and where the source of video may be digital (see col. 4, line 67 – col. 5, line 3 and lines 5-7). The claimed time-shifted mode is met one way by using the PAUSE command followed by a RESUME command (col. 4, lines 15-27), where the real-time program may be paused and playback may be continued after a RESUME command is made the program will be played back time shifted relative to the broadcast as received. The claimed pausing a real-time frame during a transition from the real-time mode to the time-shifted mode is met by the system outputting a “FREEZE FRAME” of the program to the display device during activation of the PAUSE and keeps track of the appropriate re-entry point when the RESUME command is made (col. 4, lines 18-27), this further meets the claimed transition that is between the paused real-time mode to the time-shifted mode.

As to claim 3, Russo discloses “PAUSE”, “RESUME”, “REVIEW/REWIND”, “FAST FORWARD” and other operator commands (col. 3, lines 7-42 and col. 4, lines 15-43) to allow the viewer to fast forward or rewind to a specific portion of the received signal when they are watching it in a time shifted or delayed mode.

As to claim 4, Russo discloses as previously described above that the claimed transition mode is triggered by a command of a viewer (col. 3, lines 7-16 and col. 4, lines 18-27).

As to claim 5, Russo discloses that the real-time video frames may be derived from digital or uncompressed video (col. 4, line 67 - 5, line 3).

As to claim 6, the Russo et al reference discloses a disk 116 in Fig. 1 that may take other forms, including solid state memory and video RAM (col. 5, lines 47-52) which acts as an input frame buffer that provides the real-time video frames, in addition, Russo discloses that a separate frame store or buffer may be used with the compression and decompression engines 107 and 140 (see col. 5, line 47 – col. 6, line 14).

As to claim 7, Russo discloses that the real-time video frames may be derived from digital compressed video, which meets the claimed input compressed video (col. 4, line 67 - 5, line 3).

As to claim 8, Russo discloses the claimed real-time frames are provided from a decoder that decompresses the input compressed video as met by decompression engine 140 in Fig. 1 (see col. 7, lines 50-61).

As to claim 10, Russo et al discloses the claimed compressed video comprises MPEG video (see col. 7, lines 57-61).

As to claim 11, Russo et al discloses a method for storing information relating to a specific point in a program when a “PAUSE command” (col. 3, lines 7-16 and col. 4, lines 15-27) is received or, in another embodiment, when a “MARK command” (col. 3, lines 46-49) is issued and used along with “Marker memory” (col. 8, line 20), where information regarding program markers is stored to specify a point or frame from which playback can be resumed.

As to claim 24, the claimed method wherein the transition is seamless to a viewer is inherent to the method and system as disclosed by Russo et al, as previously described above, wherein when a PAUSE command is received the system outputs a FREEZE frame, and when a RESUME command is received, playback automatically commences from that point, thereby outputting the program time shifted relative to the broadcast as received (see col. 3, lines 7-14 and col. 4, lines 15-24).

As to claim 21, the Russo et al reference discloses the claimed television receiver as described in col. 5, lines 13-19. The claimed frame buffer and separate frame storage system are met by the Russo reference as previously described above in claim 6, wherein the frame buffer is met by a disk 116 in Fig. 1 that may take other forms, including solid state memory and video RAM (col. 5, lines 47-52) which acts as an input frame buffer that provides the real-time video frames, and the separate frame storage system is met by a separate frame store or buffer that may be used (see col. 6, lines 12-14). The claimed time shifted decoder configured to generate a second output in response to the stored uncompressed video signal is met by the display generation circuitry 144 and read circuit 130, which reads the time-shifted program and generates an output in response to the stored uncompressed video signal along dashed line 131 to the display generation circuitry (col. 8, lines 10-19). Russo also discloses decompression blocks 140 and 142 (decoder D/A) for decompressing and decoding compressed stored signals. The claimed controller configured to generate a command to control presenting a first output when in the first mode and a second output when in the second mode is met by system controller 112 as shown in Fig. 1, which controls whether a real-time signal is output in one mode or whether a time-shifted video program is output in another mode (see col. 5, lines 8-24 and col. 7, lines 26-

35), and the outputs are displayable on a display device (see col. 5, lines 5-7 and col. 8, lines 10-19, and output 108 in Fig. 1).

As to claim 16, Russo et al discloses that the encoder and decoder (105-107 and 140-142) may be provided in a single microcomputer (col. 7, lines 36-61, specifically lines 54-57).

As to claim 17, the claimed processing paths include buffers in a common memory is met by the disk 116 in Fig. 1 that may take other forms, including solid state memory and video RAM (col. 5, lines 47-52) which acts as an input frame buffer that provides the real-time video frames and time-shifted frames.

As to claim 22, the Russo et al reference discloses the claimed controller as met by system controller 112 in Fig. 1, which is configured to receive a command (col. 5, lines 8-12) and a compressed digital video input (col. 7, lines 26-35). The claimed frame buffer, time-shifted decoder and controller as claimed are met as described in claim 20. In addition to, Russo discloses that the frame storage system is coupled to the controller as shown by the frame storage or disk 116 is coupled to the disk controller 114, which is further couple to the system controller 112. The marker memory 156 is also coupled to the system controller 112 (see Fig. 1).

As to claim 23, Russo discloses the claimed frame buffer as met by a disk 116 in Fig. 1 that may take other forms, including solid state memory and video RAM (col. 5, lines 47-52), which acts as an input frame buffer that provides the real-time video frames and generates a first signal in response to a digital input signal 104'. The claimed pausing a real-time frame during a transition from a real-time mode to a time-shifted mode is met by the system outputting a "FREEZE FRAME" of the program to the display device during activation of the PAUSE and keeps track of the appropriate re-entry point when the RESUME command is made (col. 4, lines

18-27. The claimed encoder that generates a second signal in response to input signal 104 is met by A/D converter 105 and compression engine 106. The signal is stored in a buffer 116 and retrieved separately through read heads 132 or 134 and read circuitry 130. The claimed controller to present an output signal is met by system controller 112 as shown in Fig. 1, which controls whether a real-time signal is output in one mode or whether a time-shifted video program is output in another mode (see col. 5, lines 8-24 and col. 7, lines 26-35), and the outputs are displayable on a display device (see col. 5, lines 5-7 and col. 8, lines 10-19, and output 108 in Fig. 1).

As to claim 18, Russo discloses that the components of Fig. 1 may be contained within any type of enclosure associated with video processing (col. 5, lines 13-24), and that the system may be a part of a satellite or cable transmission (col. 5, lines 1-3) which inherently include some form of a set-top box as a receiver for video processing.

As to claim 19, Russo discloses that the apparatus is configured to present signals viewable by an analog television (see col. 8, lines 7-10 and col. 5, lines 5-7 for standard television).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 13-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russo et al.

As to claim 9, the Russo et al reference discloses that the compression and decompression functions may be combined into a single physical entity, such as a programmed microcomputer (col. 7, lines 52-57). The Russo reference does not explicitly disclose a single codec chip that provides the real-time mode, the time-shifted mode, and the transition mode. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a single codec chip in order to reduce manufacturing costs, improve efficiency, and utilize space (on the circuit board).

As to claim 20, the Russo et al reference discloses the claimed frame buffer and separate frame storage system are met by the Russo reference as previously described above in claim 6, wherein the frame buffer is met by a disk 116 in Fig. 1 that may take other forms, including solid state memory and video RAM (col. 5, lines 47-52) which acts as an input frame buffer that provides the real-time video frames, and the separate frame storage system is met by a separate frame store or buffer that may be used (see col. 6, lines 12-14). The claimed time shifted decoder configured to generate an output in response to the stored compressed video signal is met by the display generation circuitry 144 and read circuit 130, which reads the time-shifted program and generates an output in response to the stored compressed video signal through decompression blocks 140 and 142 (decoder D/A) for decompressing and decoding compressed stored signals. As described above in claim 1, Russo discloses pausing a frame of the first output during a transition from a first mode to a second mode. The claimed controller configured to generate a command to control presenting a first output when in the first mode and a second output when in

the second mode is met by system controller 112 as shown in Fig. 1, which controls whether a real-time signal is output in one mode or whether a time-shifted video program is output in another mode (see col. 5, lines 8-24 and col. 7, lines 26-35), and the outputs are displayable on a display device (see col. 5, lines 5-7 and col. 8, lines 10-19, and output 108 in Fig. 1). The claimed real-time decoder is met by the same circuitry used for the time-shifted decoder, which generates a first output in response to a compressed digital video input signal as previously described and pauses a frame of said first output during a transition from a first mode to a second mode in conjunction with the system controller 112 and described above as well. Russo discloses that the components of Fig. 1 may be contained within any type of enclosure associated with video processing (col. 5, lines 13-24), and that the system may be a part of a satellite or cable transmission (col. 5, lines 1-3) which inherently include some form of a set-top box as a receiver for video processing. The Russo reference does not specifically disclose separate decoders for the real-time decoder and time-shifted decoder. However, Russo does disclose multiple read/write heads 132, 134, 124 and 126 and multiple separate decoders would be advantageous to perform multiple tasks independently and/or simultaneously. Therefore, it would have been obvious to use a separate real-time decoder and time-shifted decoder for the advantages given above.

As to claims 13 and 14, Russo discloses a real-time processing path as described in claim 20 and met by devices 130, 140, 142 and 144, which is controlled by system controller 112. The decoder is met by D/A converter 142, which performs both the real-time decoding and the time-shifted decoding depending on the mode. It would have been obvious to have separate decoders for the reasons given above in claim 20.

As to claim 15, the Russo et al reference does not specifically disclose having a separate processing path for the real-time mode and for the time-shifted mode. However, it would have been obvious to have separate decoders in separate processing paths for the reasons given above in claim 20.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goldwasser et al (USPN 5,241,428) – Discloses a variable-delay video recorder.

Kim (USPN 5,452,023) – Discloses an apparatus and method for stabilizing a picture of an image system.

Lortz (USPN 6,349,410) – Discloses a set-top box device with a controller that may be used for broadcast television pause and other trick functions.

Satake et al (USPN 5,317,399) – Discloses an image reproducing apparatus capable of freezing a displayed image.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael W. Hoye whose telephone number is (703) 305-6954. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at (703) 305-4795

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Michael W. Hoye
August 14, 2003



JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600